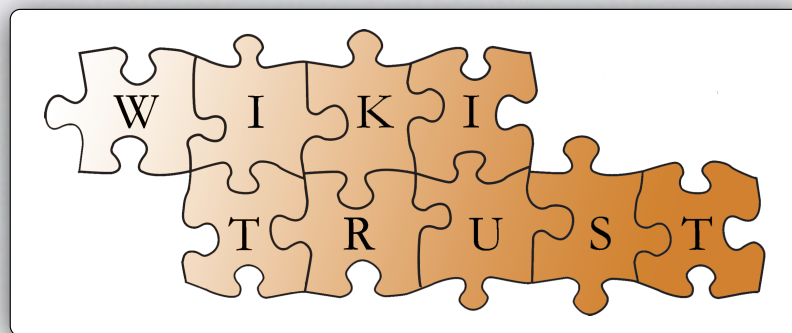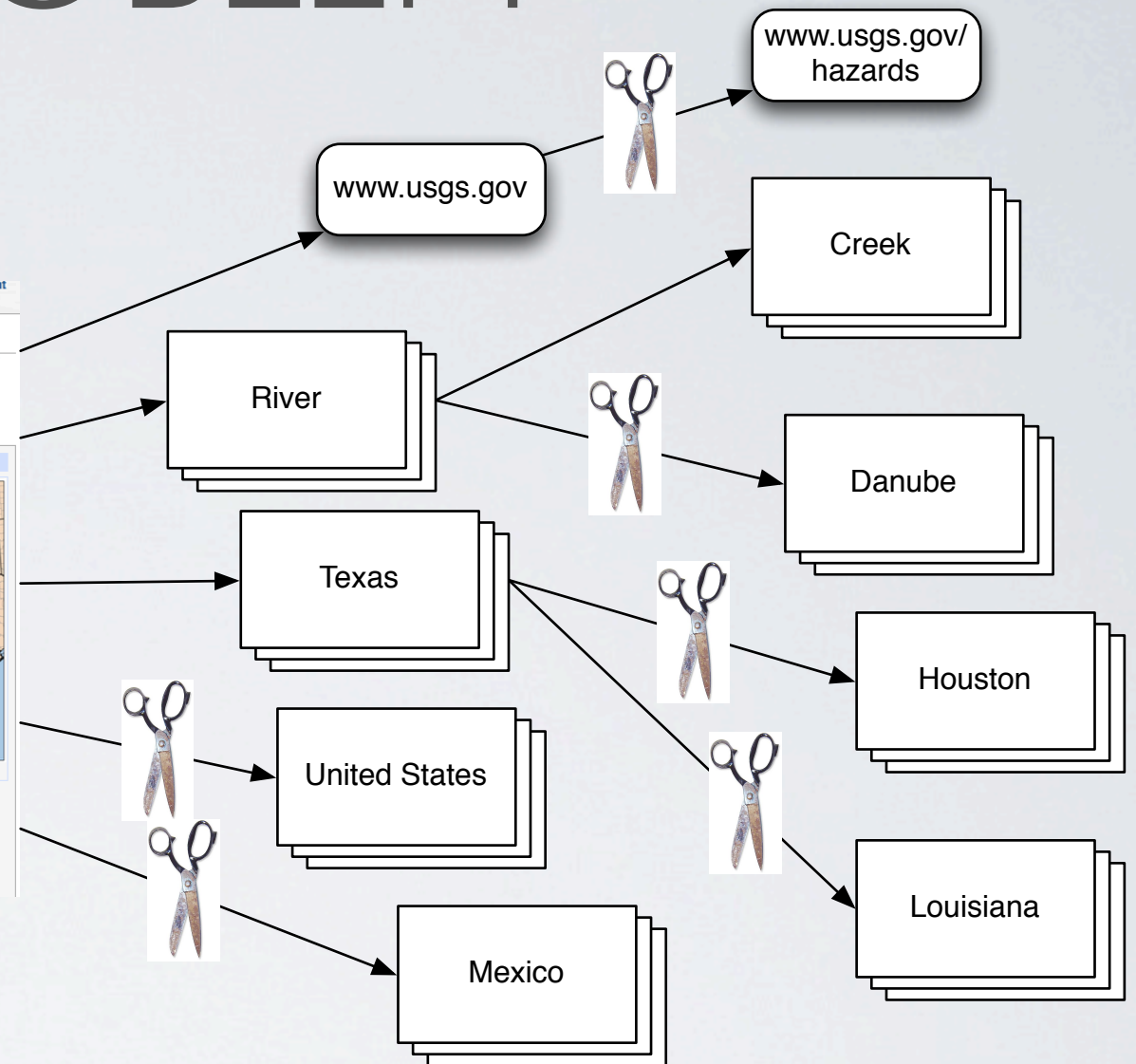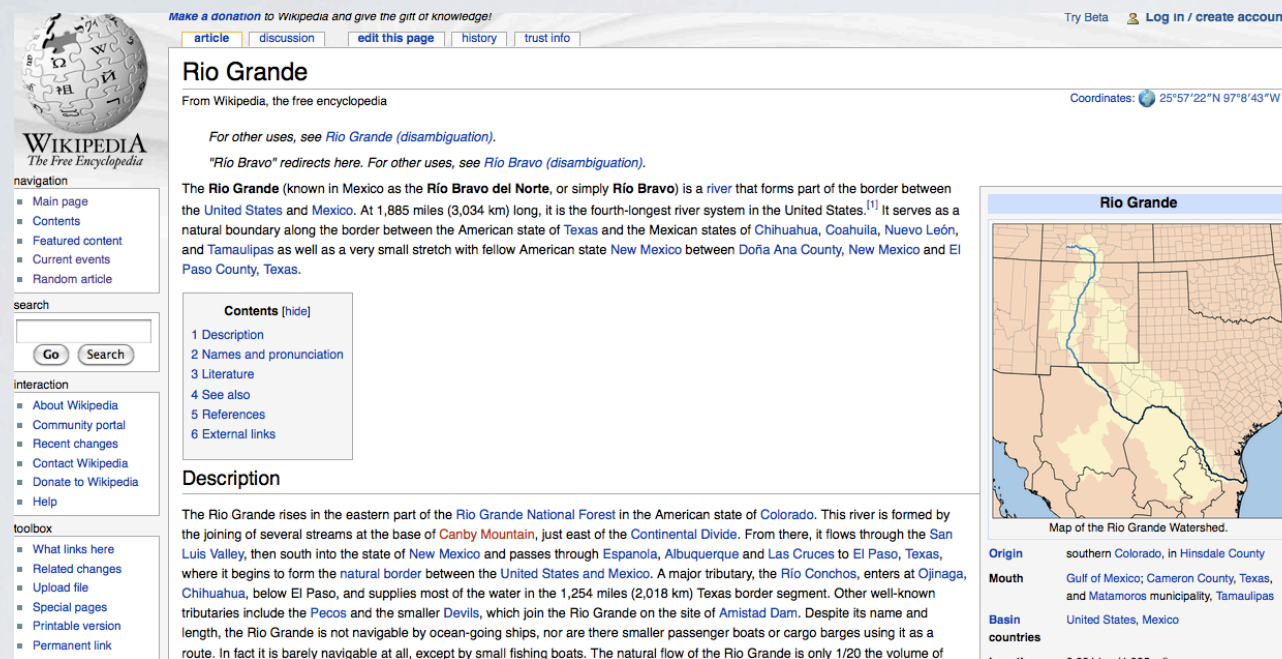# SCRAWL: A SEMANTIC CRAWLER FOR THE WIKIPEDIA AND BEYOND

Ian Pye, Luca de Alfaro
Shelly Spearing, Jorge Roman

THE PROBLEM

The Wikipedia is too big! We just want to look at the (potentially) interesting parts.

OUR SOLUTION

Target Page

Page to Evaluate

HTML

orch8.net, extract tri-grams

Target Histogram

Close Enough?

No

Yes

Disk

Revision Histogram

OUR SOLUTION

1) Download and Render to HTML

Target Page

Page to Evaluate

HTML

OUR SOLUTION
1) Download and Render to HTML
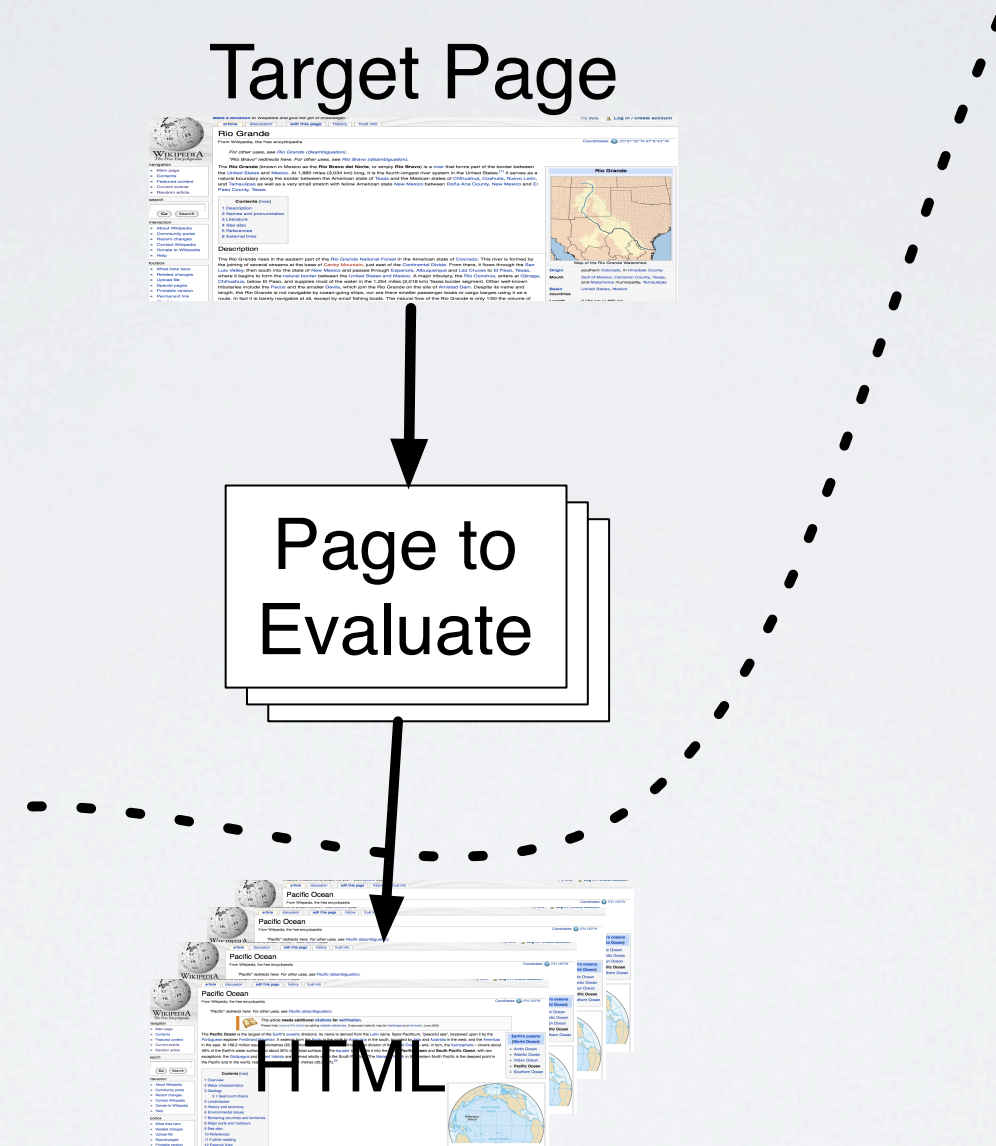## 2) From HTML to Semantic Digest

Page to
Evaluate

HTML

orch8.net,
extract
tri-grams

Revision
Histogram

OUR SOLUTION
1) Download and Render to HTML
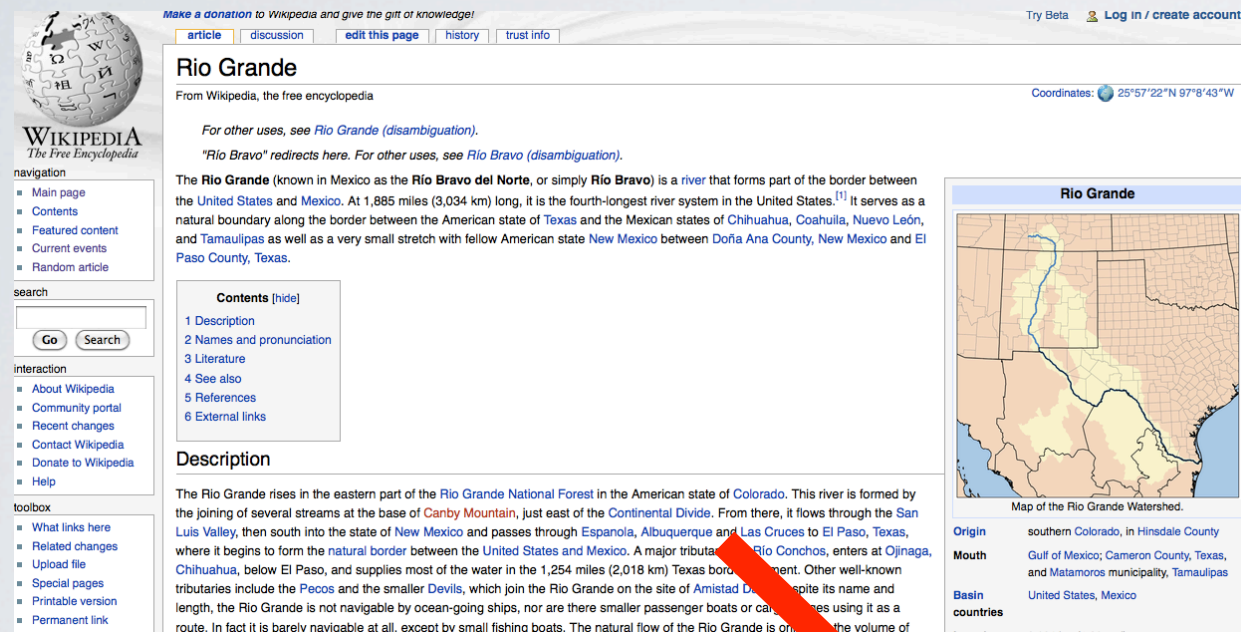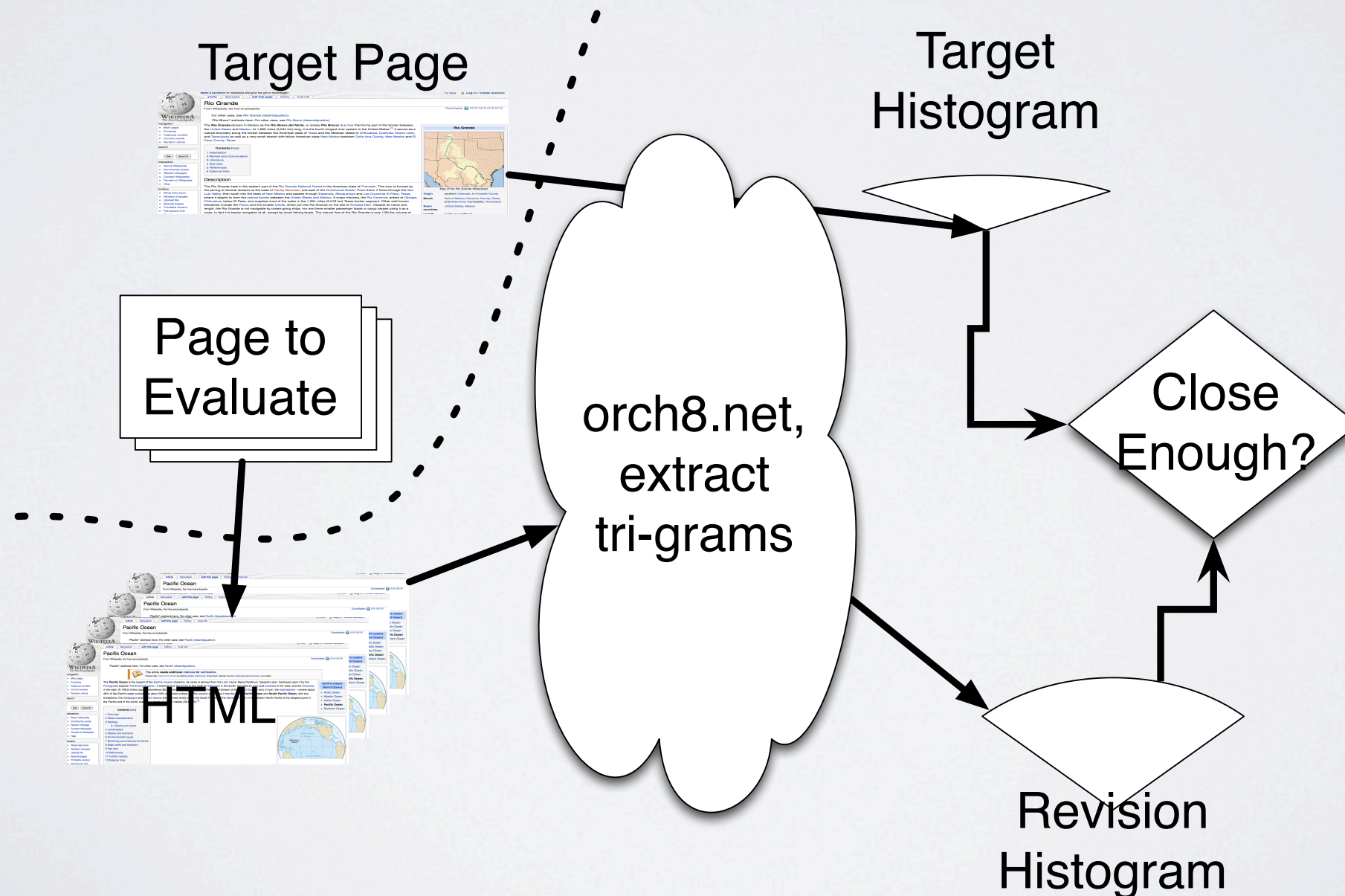## 2) From HTML to Semantic Digest

Rio Grande River
Texas State River
Big Bend Park

OUR SOLUTION

1) Download and Render to HTML
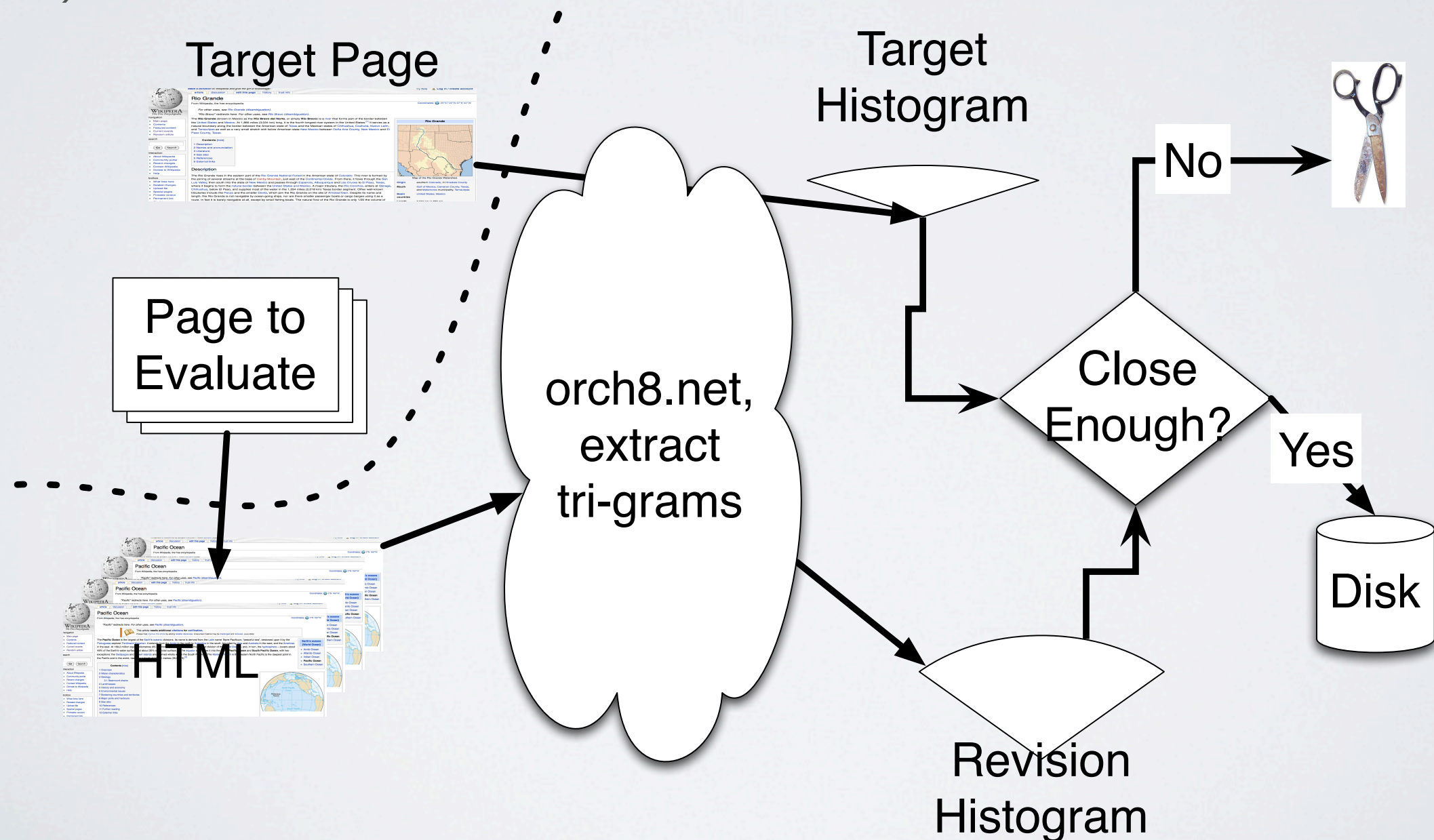2) From HTML to Semantic Digest
3) Euclidian Distance from the Target

Target Page

Page to Evaluate

HTML

orch8.net, extract tri-grams

Target Histogram

Close Enough?

Revision Histogram

OUR SOLUTION

1) Download and Render to HTML
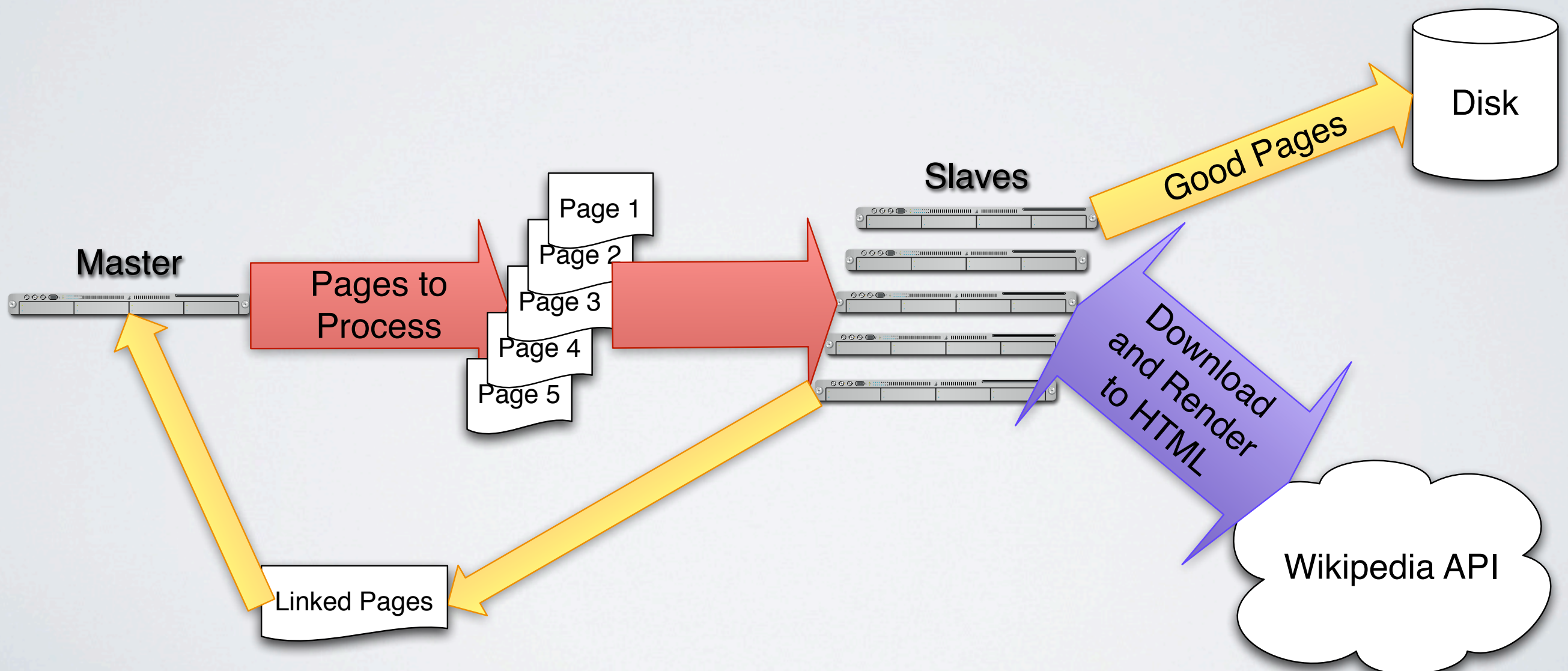2) From HTML to Semantic Digest
3) Euclidian Distance from the Target

432

OUR SOLUTION

1) Download and Render to HTML
2) From HTML to Semantic Digest
3) Euclidian Distance from the Target
4) Extract Links and Recurse If Distance < Max

Target Page

Page to Evaluate

HTML

orch8.net, extract tri-grams

Target Histogram

Revision Histogram

No

Close Enough?

Yes

Disk

DO THIS IN PARALLEL

OpenMPI allows us to run in a page-wise parallel fashion on a cluster.

TESTING PLATFORM:
CRAIGZCRUZER
WWW.SUPERTRIC.COM
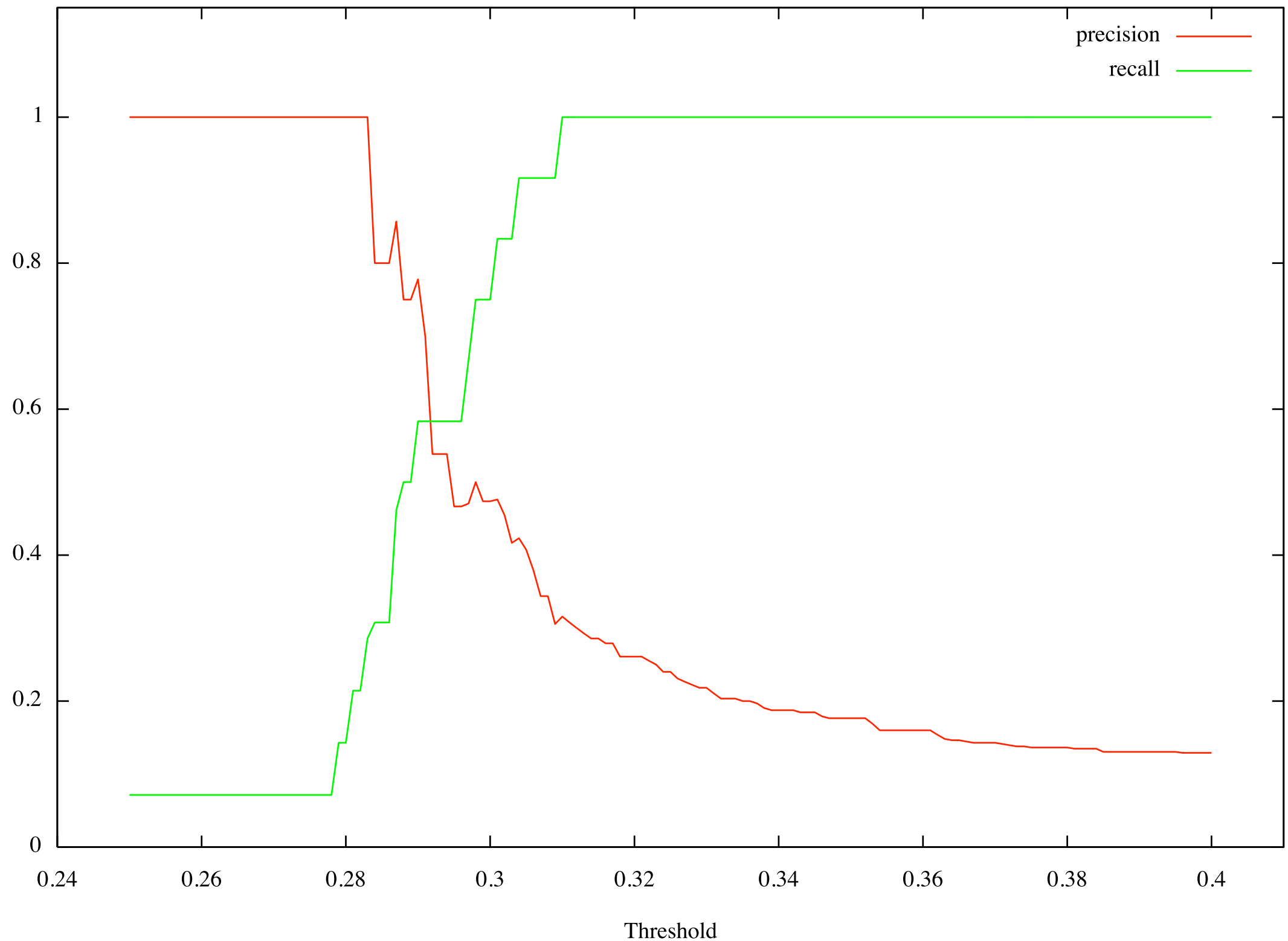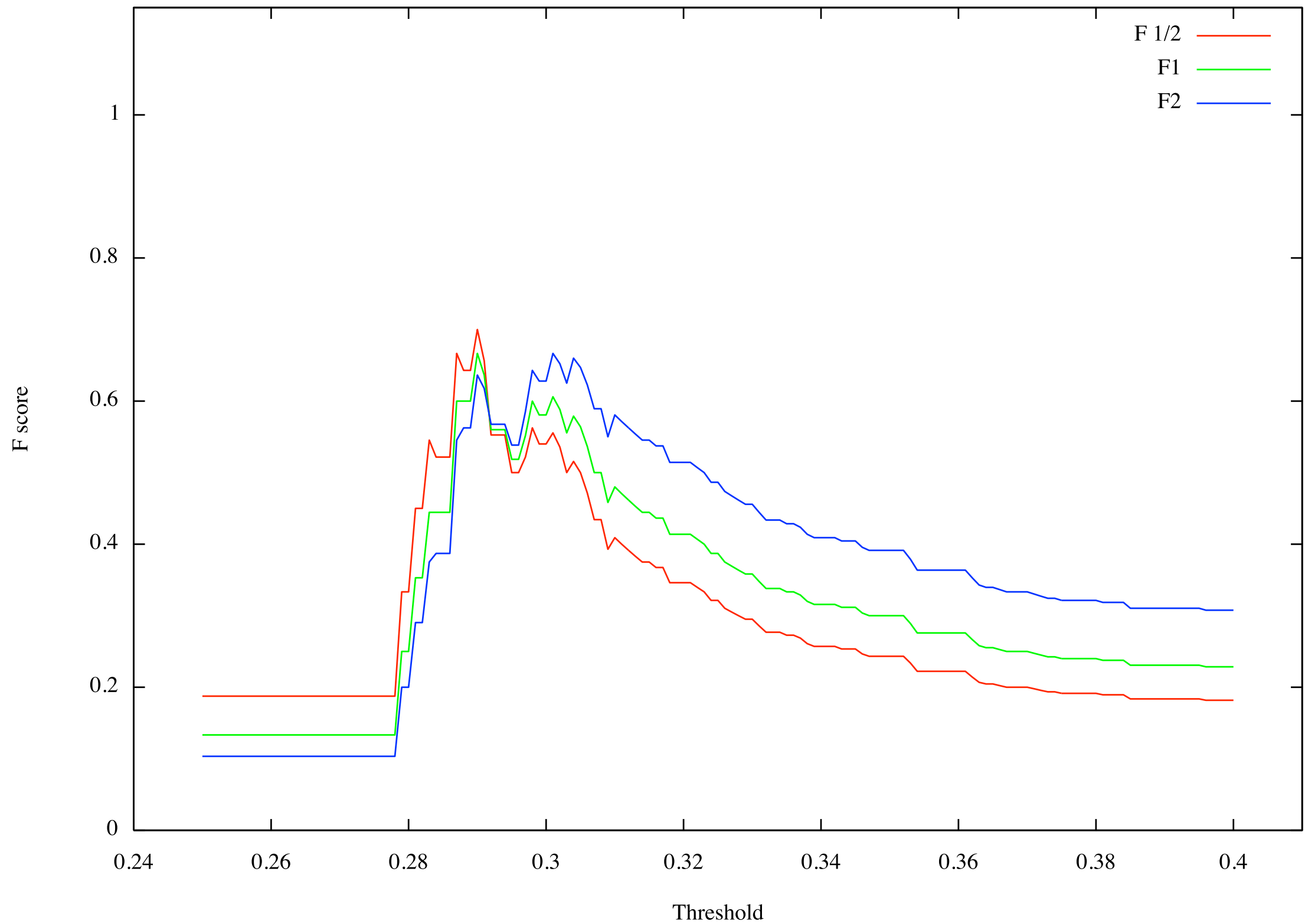
HOW ACCURATE IS IT?
METRICS (OR, A SHORT DIGRESSION INTO IR)

- Precision: the ratio of true positives to false positives

- Recall: the ratio of found positives to all positives

- F_β: How much to weight recall vs precision?

RESULTS: PRECISION AND RECALL

RESULTS: Fβ

CONCLUSIONS

- SCrawl is a tool to extract what text MIGHT be interesting.

- Works though semantic meaning.

- Achieve high recall without sacrificing too much precision.

- Parallel processing for large datasets.